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ALLEGHENY FOREST EXPERIMENT STATION*

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PORTABLE POWER SAWS CAN SPEED UP CORDWOOD PRODUCTION

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A portable power saw developed for cutting pine pulpwood in the south showed possible savings of 21% in cost of producing cordwood in Connecticut. Other saws of equal or greater merit as timesavers are being tested and used. Such savings are especially significant today when shortage of skilled woods workers makes it impossible to supply fully our needs for logs, pulpwood, fuel and chemicalwood.

The saw tested has a 28" circular blade driven by an air-cooled gasoline motor and is mounted on a pair of bicycle wheels, pushcart fashion. Weighing only 185 pounds, the machine can be pushed along by one man on fairly level ground. In the south where the pine stands are open and level, the saw is used for both felling and bucking, but the rough, rocky ground and thick underbrush of the northeast usually make it impracticable to push the saw around in the woods. Here a three-man crew has proved satisfactory. In the tests the three men felled the trees, marked 4' cuts, bucked the poles into lengths that could be handled by two men, and piled these in the skidroads. The power saw was then wheeled from pile to pile and the lengths sawed into 4' wood. One man manipulated the saw and the other two placed the sticks, held them for sawing, and tossed the 4' bolts into piles on either side of the saw. A piece of cordwood was used as a saw horse by placing it on the ground parallel with the saw blade and leaning the pole to be cut against it.

Cordwood production time using the power saw was as follows:

<u>Job</u>	<u>Man Hours per Cord</u>	<u>% of Total Time</u>
Felling (including limbing, marking, cutting into long lengths and rough piling).	4.04	59.4
Sawing (including starting saw, moving from pile to pile, etc.).	1.24	18.3
Hauling (including loading, hauling and unloading).	1.52	22.3
	6.80	100.0

The costs per cord for average working conditions are:

<u>Power Saw</u>		<u>Ordinary Piecework</u>	
Labor	\$4.81	Cutting	\$5.00
Truck	.40	Skidding	2.00
Sawing	.30		
	\$5.51		\$7.00

*In cooperation with the University of Pennsylvania

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A crew operation would be most efficient if the saw were operated continuously. On an eight-hour basis, the saw could handle about 19.5 cords including time to move from pile to pile on skid roads. This would call for ten choppers in the woods to supply the saw, and a driver and two helpers for loading, hauling and unloading.

In these tests the average cordwood stick was 3.8" in diameter. Larger average diameters would materially lower the sawing time per cord.